CONTAINER WITH TEAR FEATURES

BACKGROUND

[0001] Many products are shipped in a bag and box arrangement in which each product is individually stored in a bag, typically made of flexible single or double ply plastic or some other type of flexible, often a single use enclosure, which in turn is stored in a larger container made of a more rigid material such as corrugated cardboard. Examples of such products include coiled data cables that are commonly packaged in individual single-use plastic enclosures. A quantity of such individually bagged products is commonly transported in the larger, more rigid containers.

[0002] There are a number of deficiencies in such a shipping method. The bag and box arrangement comprises multiple materials, some of which are not recyclable and thus not conducive to sustainable packaging practices that aim to reduce environmental footprints. For example, when a large number of such boxes are utilized to ship products for installation at a construction site, each product must be individually removed from its flexible enclosure. The flexible enclosure, if comprised of a single-use plastic enclosure, can generate a substantial amount of waste material that must be disposed of once the product is removed. Additionally, it is cumbersome and time consuming to individually remove each individual item from its flexible enclosure.

[0003] One possible option is to replace the flexible, often single-use, enclosures with an alternative method using a single package, such as a paperboard header that can be used to enclose and secure each product, such as a coiled data cable. However, such a paperboard header may not be conducive for efficient manufacture and ease of packaging. Further, the use

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of paperboard headers requires the use of a significant amount of paperboard materials which may not contribute to sustainability objectives. Another option may be to forego individual packaging and place some quantity of the products into bulk envelopes and ship a number of the bulk envelopes in the larger container. While bulk envelopes may reduce the need for individual packaging, the end user would still need to remove the envelope from the shipping container and remove the products from the envelope, thus adding additional unpacking steps. After the products are removed, the used envelopes still leave some amount of additional material that must be recycled or otherwise disposed of.

[0004] A further option is to eliminate the use of individual single-use flexible enclosures altogether and utilize only the larger container or box to store and ship the products. Although the elimination of individual, often single-use, flexible enclosures or bulk envelopes can be conducive to sustainable practices, a number of problems are introduced by this approach. For example, the products stored in the larger container or box must now remain in the larger container or box until ready for immediate use, since there is no longer any individual enclosure to protect or identify each product. However, when the products remain in the larger container or box, the products may not be readily visible when the containers or boxes are stacked or otherwise not readily accessible by the user. If a large number of boxes with different product types have been shipped (e.g., coiled cables of different lengths), it may be difficult to find a particular product when the products are not visually identifiable. A user may have to unstack and open several boxes before finding a particular product, which can add to delays at a job site. Furthermore, it may be cumbersome and time-consuming to remove the lid or otherwise open a box or container in order to access the products, once the desired box or container is found, and in particular if the boxes or containers are stacked.

[0005] It is with respect to these considerations and others that the disclosure made herein is presented.

SUMMARY

[0006] The present disclosure relates to packaging and more particularly to a sustainable container design that is suitable for the transport and storage of various products including data cables. The present embodiments provide for improved shipping and unpacking practices that enable cost effective, scalable, and sustainable methods for shipping and unpacking products, for example, at a construction or installation site.

[0007] The present disclosure addresses the aforementioned shortcomings by providing a recyclable shipping container that may be transported to end user sites where the end user can easily find, access, and deploy the product with reduced resultant waste. In an embodiment, a container with tear features is disclosed for storing and shipping items. The container with tear features may comprise four sides, a bottom, and a top comprised of a substantially rigid material and forming a rectangular structure when assembled. The container with tear features may further comprise perforations on at least one of the sides, the perforations integral with the side and arranged to form a first cut out area. The first cut out area may be disposed to provide visual access to the items stored in the container when the container is assembled and the first cut out area has been detached from the side of the container.

[0008] The container with tear features may further comprise at least two perforations extending from the first cut out area. The two perforations may form a second cut out area disposed to provide physical access to the items stored in the container by allowing for further detachment of the container side, thus increasing the open area by which a user can reach into the container and access the contents of the container.

[0009] This Summary is provided to introduce a selection of concepts in a simplified form that are further described below in the Detailed Description. This Summary is not intended to identify all key features or essential features of the claimed subject matter, nor is it intended that this Summary be used to limit the scope of the claimed subject matter. Furthermore, the claimed subject matter is not limited to implementations that solve any or all disadvantages noted in any part of this disclosure.

DRAWINGS

[0010] The Detailed Description is described with reference to the accompanying figures. In the description detailed herein, references are made to the accompanying drawings that form a part hereof, and that show, by way of illustration, specific embodiments or examples. The drawings herein are not drawn to scale. Like numerals represent like elements throughout the several figures.

[0011] FIG. 1 is a diagram illustrating an example container with tear features in accordance with the present disclosure;

[0012] FIG. 2 is a diagram illustrating an example assembled container with tear features in accordance with the present disclosure;

[0013] FIG. 3 is a diagram illustrating a user accessing the example assembled container with tear features in accordance with the present disclosure;

[0014] FIG. 4A is a diagram illustrating the example assembled container with tear features with an open "tear to view" area in accordance with the present disclosure;

[0015] FIG. 4B is a diagram illustrating the example assembled container with tear features with an open cut out area in accordance with the present disclosure;

[0016] FIG. 5 is a diagram illustrating a plurality of assembled containers in a stacked configuration in accordance with the present disclosure;

[0017] FIG. 6 depicts an example operational procedure in accordance with the present disclosure;

[0018] FIG. 7 depicts an example operational procedure in accordance with the present disclosure.

DETAILED DESCRIPTION

[0019] The present disclosure relates to a novel and advantageous sustainable container design that may be used to store and transport a variety of products. In various embodiments, a container is disclosed that generally includes selectively placed cutout or tear out areas on at least one face or side of the container. The cutout or tear out areas may include a first tear out area that may be a smaller area sufficient in size such that a person proximate to the box may be able to view the contents of the container when the first tear out area is at least partially detached from the face or side of the container.

[0020] The container may comprise four sides, a bottom, and a top comprised of a substantially rigid material and forming a square or rectangular structure when assembled. The square or rectangular shape of the container may allow one container to be placed directly next to and/or on top of another container, so as to maximize the amount of product that can be stored or shipped in a limited space. At the same time, the cutout or tear out areas of the containers may be situated on one of the sides of the containers such that the first tear out area allows a person proximate to the box to view the contents of the container while the containers are stacked.

[0021] In a further embodiment, an additional tear out portion may be provided that is adjacent to the first tear out area. The additional tear out portion may be situated such that detachment of the additional tear out portion provides sufficient access to the contents of the container so that a user can remove one or more products (e.g., coiled cables) from the container in situ. The user need not remove the container from its stacked location, or open the container from the top or another area of the container such that the container needs to be moved from its stacked position.

[0022] In one embodiment, the shape and dimensions of the tear out portions may be configured to allow placement of labeling on the tear out portions without covering or otherwise interfering with the perforations of the tear out portions.

[0023] The disclosed embodiments provide advantageous ways to present a shipping container to the user while eliminating the flexible, often single-use plastics, such as polybags, and at the same time employing features that allow and facilitate effective and efficient access to the container's contents to the user.

[0024] Referring to the appended drawings, in which like numerals represent like elements throughout the several FIGURES, aspects of various technologies for a sustainable container design will be described. In the following detailed description, references are made to the accompanying drawings that form a part hereof, and which are shown by way of illustration specific configurations or examples.

[0025] While the exemplary embodiments are illustrated with corrugated cardboard, it should be understood that the disclosed design can be implemented with other types of materials such as paperboard (e.g., coated recycled board (CRB)), solid bleached board (SBB) or solid bleached sulphate (SBS), and other types of materials and packaging styles. The disclosed design can also be implemented with corrugated cardboard with various box strengths such as 32 or 44 Edge Crush Test (ECT). In one embodiment, the packaging container 100 of FIG. 1 may be a conventional cardboard box constructed of, for instance, corrugated cardboard or a stiff paperboard although other lighter materials, all of which may be recyclable, may be used.

[0026] It should also be noted that while many of the illustrated embodiments are shown with coiled cable products, it should be understood that the disclosed design can be implemented with other types of products that are amenable to being packaged in such containers.

[0027] FIG. 1 shows an embodiment of the packaging container 100 of the present disclosure prior to assembly. The packaging container 100 may have various cuts and creases 170 to constitute the final folded geometry and to aid in assembly. The pre-assembled, flat packaging container 100 as shown in FIG. 1 consists of wall sections 105 which, when folded, can create a three-dimensional box, and flaps 140, 150 which, when folded and adhered to the sides of the box, create a rigid, three-dimensional container structure. In one specific embodiment, packaging container 100 may have four square or rectangular wall sections 105, a bottom wall formed by assembly of the bottom flaps 150, and a top lid 140 that can be closed and/or sealed when folded into an operable position of the assembled packaging container 100 as shown in FIG. 2. The packaging container 100, when assembled, may have a generally square or rectangular cross-sectional shape for use as a packaging container.

[0028] As shown in FIGs. 1-4B, one embodiment of the packaging container 100 may include one or more of selectively placed cutout or tear out areas 110, 125, as defined by various perforation areas 120, 130, on at least one wall section 105 of the packaging container 100. The plurality of tear out areas 110, 125 permit the area of the tear out to be variable in size ranging from a smaller area sufficient for a person proximate to the box to view the contents of the container, the "Tear to View" tear out area 110, or, by means of additional manual tearing out, increased to a larger size to enable the user to reach in with one or two fingers to access the product within the container such as tear out portion 125, the "Tear to Access" area.

[0029] The square or rectangular shape of the assembled packaging container 100, depicted in FIGs. 2-4B, may allow one packaging container 100 to be placed directly next to and/or on top of another packaging container 100 to maximize the amount of product that can be stored or shipped in a more compact area or space. At the same time, the cutout or tear out areas, Tear to View 110 and Tear to Access 125, of the containers may be situated, as previously noted, on one or more of the wall sections 105 to allow a person proximate to the packaging container 100 to be able to view or even access the contents of the packaging container 100 while the packaging containers 100 are stacked.

[0030] In a further embodiment, as noted, the tear out areas 110, 125 are defined by various patterns of perforated areas on the wall sections 105 of the packaging containers 100. The Tear to View tear out section 110 is defined by a perforation pattern (e.g., an oval, circular, square, or rectangular pattern) of sufficient size to permit adequate viewing of the product 180 (e.g., cables) within the packaging container 100, as shown in FIG. 4A. The Tear to Access tear out section 125 is defined by a perforation pattern, consisting of extensions 130, 135 from either side of the Tear to View tear out area 110, sufficiently disposed to permit a user to manually extend the Tear to View tear out area 110 to a larger tear out area, the Tear to Access tear out area 125. The additional tear out portion, the Tear to View portion 125, may be sufficiently large so that a user can remove one or more products 180 (e.g., cables) from the packaging container 100, as shown in FIGs. 3 and 4B, without having to physically open the packaging container 100 and even when a plurality of packaging containers 100 are stacked. Thus, the user need not remove the packaging container 100 from its stacked location, or to open the packaging container 100 from the top or another area of the packaging container 100 such that the packaging container 100 needs to be moved from its stacked position.

[0031] Referring again to FIG. 1, in some embodiments the tear out portion 125 may be designed with dimensions to provide a label area 160 that substantially matches a size for labels (not shown) that may be affixed to the packaging container 100. Labels may be affixed to identify product information, customer information, and the like, and may be generated and affixed by the producer or shipper of the products to be contained in the packaging container

100. By providing the label area 160, the labels may be placed on the packaging container 100 without covering perforations 120, 130, 135 and the Tear to Access tear out area 125.

[0032] FIG. 5 illustrates a plurality of assembled packaging containers 100 that are stacked directly next to and/or on top of one another. The assembled packaging containers 100 may be stacked so that the Tear to View tear out area 110 and the Tear to Access tear out area 125 of the assembled packaging container 100 face outward so that a person proximate to the assembled packaging containers 100 may be able to view the contents of the container while the assembled packaging containers 100 are stacked.

[0033] The illustrated embodiments provide an advantageous container having tear features that facilitate the shipping of products without the need for single-use plastic enclosures. The illustrated embodiments further provide a container design that allows for users to view and remove the contents of the container without having to move or unstack the container from its current location or having to open a lid of the container.

[0034] The disclosed design further overcomes shortcomings of alternative designs such as configuring a carton with a handle, for example by adding openings to the top of the container. Additionally, the disclosed placement of the cutout areas allows for the container to maintain structural integrity while the container is in use and while the cutout areas are being utilized. Furthermore, the structural integrity of the container with the cutout areas may maintain sufficient strength to be stacked, for example on a pallet for transport.

[0035] Turning now to FIG. 6, illustrated is an example operational procedure for using a container with tear features in accordance with the present disclosure. Such an operational procedure can be implemented using a container with tear features as illustrated in FIGs. 1 through 5. It should be understood by those of ordinary skill in the art that the operations of the methods disclosed herein are not necessarily presented in any particular order and that performance of some or all of the operations in an alternative order(s) is possible and is contemplated. The operations have been presented in the demonstrated order for ease of description and illustration. Operations may be added, omitted, performed together, and/or performed simultaneously, without departing from the scope of the appended claims. It should also be understood that the illustrated methods can end at any time and need not be performed in their entireties.

[0036] Referring again to FIG. 6, operation 601 illustrates accessing the container, wherein the container comprises four sides, a bottom, and a top comprised of a substantially rigid material and forming a rectangular structure when assembled.

[0037] Operation 601 may be followed by operation 603. Operation 603 illustrates pressing a first cut out area on at least one of the sides of the container so as to cause the first cut out area to be at least partially detached from the at least one of the sides, the first cut out area formed with perforations arranged to form the first cut out area.

[0038] Operation 603 may be followed by operation 605. Operation 605 illustrates grasping the least one side through the least partially detached first cut out area and pulling outward along second perforations extending from the first cut out area and that form a second cut out area, to cause the second cut out area to be detached from the at least one side, the second cut out area formed by at least two second perforations extending from the first cut out area.

[0039] Operation 605 may be followed by operation 607. Operation 607 illustrates removing items stored in the container through the second cut out area.

[0040] Turning now to FIG. 7, illustrated is an example operational procedure for forming a container with tear features in accordance with the present disclosure. Referring to FIG. 7, operation 701 illustrates providing a container comprising four sides, a bottom, and a top comprised of a substantially rigid material and forming a rectangular structure when assembled.

[0041] Operation 701 may be followed by operation 703. Operation 703 illustrates perforating a side of the container to form a first cut out area disposed to allow viewing of contents of the container when the first cut out area is detached along the perforated side.

[0042] Operation 703 may be followed by operation 705. Operation 705 illustrates perforating the side along two lines extending from the first cut out area to form a second cut out area disposed to allow physical access to the contents of the container when the second cut out area is detached along the two perforated lines.

[0043] The various aspects of the disclosure are described herein with regard to certain examples and embodiments, which are intended to illustrate but not to limit the disclosure.

[0044] Conditional language used herein, such as, among others, "can," "could," "might," "may," "e.g.," and the like, unless specifically stated otherwise, or otherwise understood within the context as used, is generally intended to convey that certain embodiment include, while other embodiments do not include, certain features, elements, and/or steps. Thus, such conditional language is not generally intended to imply that features, elements, and/or steps are in any way required for one or more embodiments. The terms "comprising," "including," "having," and the like are synonymous and are used inclusively, in an open-ended fashion, and do not exclude additional elements, features, acts, operations, and so forth. Also, the term "or" is used in its inclusive sense (and not in its exclusive sense) so that when used, for example, to connect a list of elements, the term "or" means one, some, or all of the elements in the list.

[0045] While certain example embodiments have been described, these embodiments have been presented by way of example only and are not intended to limit the scope of the inventions disclosed herein. Thus, nothing in the foregoing description is intended to imply that any particular feature, characteristic, step, module, or block is necessary or indispensable. Indeed, the novel features described herein may be embodied in a variety of forms;

furthermore, various omissions, substitutions and changes in the form of the features described herein may be made without departing from the spirit of the embodiments disclosed herein. The accompanying claims and their equivalents are intended to cover such forms or modifications as would fall within the scope and spirit of certain of the inventions disclosed herein.

[0046] It should be appreciated any reference to “first,” “second,” etc. items and/or abstract concepts within the description is not intended to and should not be construed to necessarily correspond to any reference of “first,” “second,” etc. elements of the claims.

[0047] In closing, although the various techniques have been described in language specific to structural features and/or methodological acts, it is to be understood that the subject matter defined in the appended representations is not necessarily limited to the specific features or acts described. Rather, the specific features and acts are disclosed as example forms of implementing the claimed subject matter.

FEATURES:

1. A container for storing items for transport, comprising:

four sides, a bottom, and a top comprised of a substantially rigid material and forming a rectangular structure when assembled; and

first perforations on at least one of the four sides, the first perforations integral with the at least one side and arranged to form a first cut out area on the at least one side, the first cut out area disposed to provide visual access to items stored in the container when the first cut out area is at least partially detached.

2. The container according to feature1, further comprising at least two second perforations extending from the first cut out area on the at least one side, the second perforations forming a second cut out area disposed to provide access to the items stored in the container when the first cut out area is extended to a second cut out area that is larger than the first cut out area.

3. The container according to feature 2, wherein the at least two second perforations radially extend from the first cut out area for a first distance, further comprising parallel third perforations extending from the second perforations to form the second cut out area.

4. The container according to feature 3, wherein a distance between the parallel third perforations is greater than a diameter of the first cut out area.

5. The container according to feature 3, wherein dimensions of the second cut out area allow for a label to be affixed to the second cut out area without covering the first, second, or third perforations.

6. The container according to feature 1, wherein the substantially rigid material comprises one of corrugated cardboard, paperboard, solid bleached board, or solid bleached sulphate.

7. The container according to feature 1, wherein the container is substantially a cube when assembled.

8. A method for using a container with tear features, comprising:

accessing the container, wherein the container comprises four sides, a bottom, and a top comprised of a substantially rigid material and forming a rectangular structure when assembled;

pressing a first cut out area on at least one of the sides of the container so as to cause the first cut out area to be at least partially detached from the at least one of the sides, the first cut out area formed with perforations arranged to form the first cut out area;

grasping the least one side through the least partially detached first cut out area and pulling outward along second perforations extending from the first cut out area and that form a second cut out area, to cause the second cut out area to be detached from the at least one side, the second cut out area formed by at least two second perforations extending from the first cut out area; and

removing items stored in the container through the second cut out area.

9. A method of forming a container with tear features, comprising:

providing a container comprising four sides, a bottom, and a top comprised of a substantially rigid material and forming a rectangular structure when assembled;

perforating a side of the container to form a first cut out area disposed to allow viewing of contents of the container when the first cut out area is detached along the perforated side; and

perforating the side along two lines extending from the first cut out area to form a second cut out area disposed to allow physical access to the contents of the container when the second cut out area is detached along the two perforated lines.

ABSTRACT

A container with tear features comprises four sides, a bottom, and a top forming a rectangular container when assembled. The container with tear features has perforations on at least one of the sides. The perforations are arranged to form a cut out area on side. The cut out area is disposed to provide visual access to the items stored in the container with tear features when the cut out area is detached. The perforations are further arranged to form a cut out area disposed to allow physical access to the contents of the container when the second cut out area is detached via additional perforations.

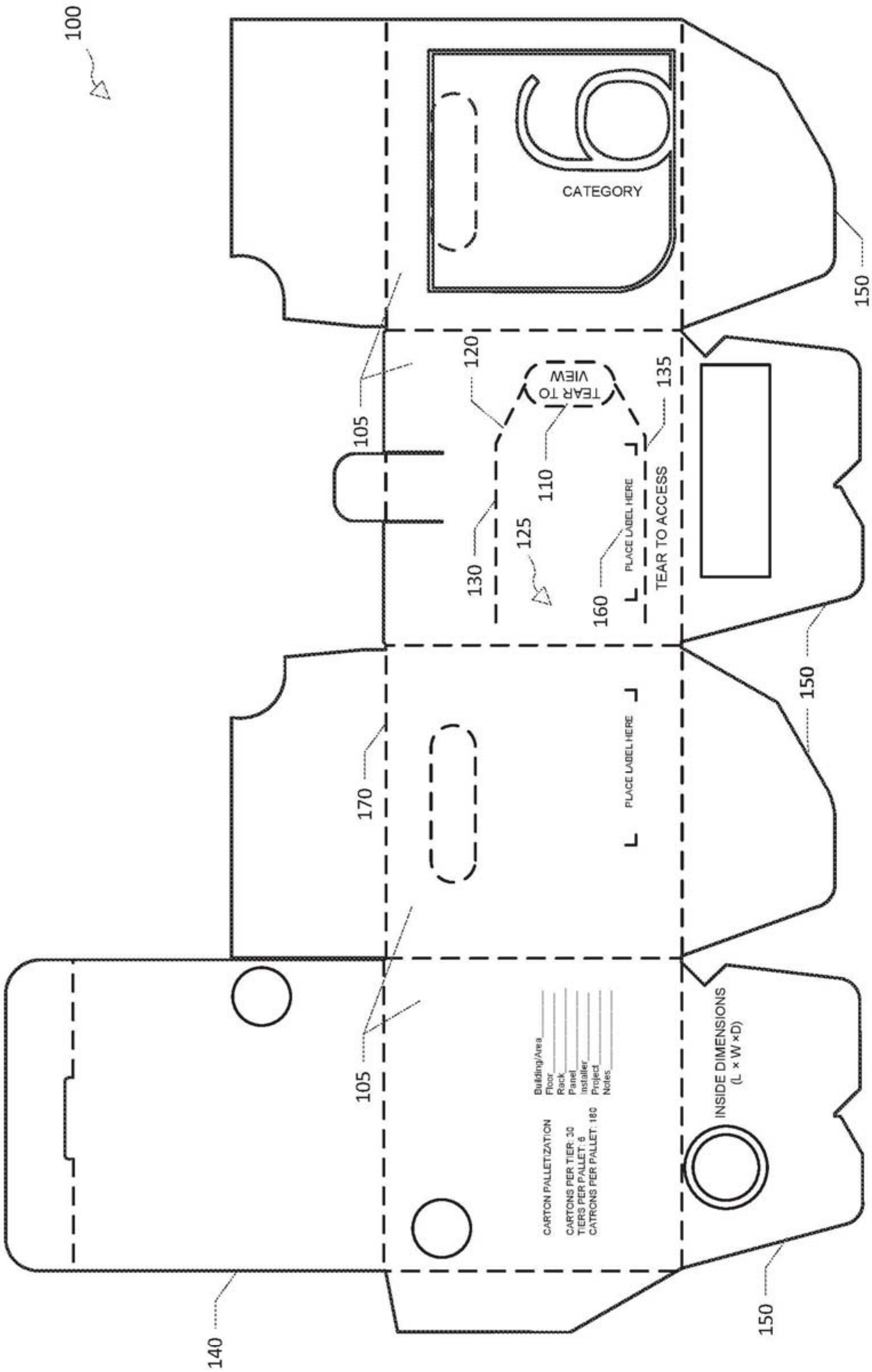

100
105
105
110
120
125
130
135
140
150
150
150
150
160
170
CATEGORY
TEAR TO VIEW
PLACE LABEL HERE
TEAR TO ACCESS
PLACE LABEL HERE
CARTON PALLETIZATION
CARTONS PER TIER: 30
TIERS PER PALLET: 6
CATRONS PER PALLET: 180
Building/Area
Floor
Rack
Panel
Installer
Project
Notes
INSIDE DIMENSIONS
(L × W ×D)

FIG. 1

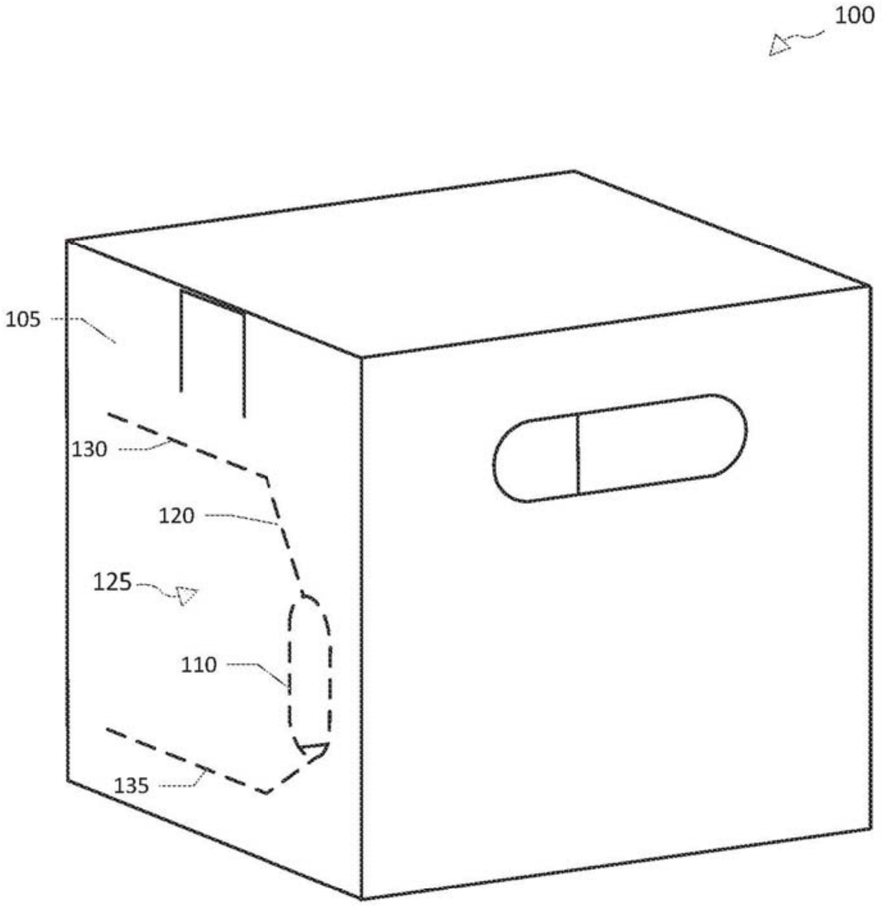


FIG. 2

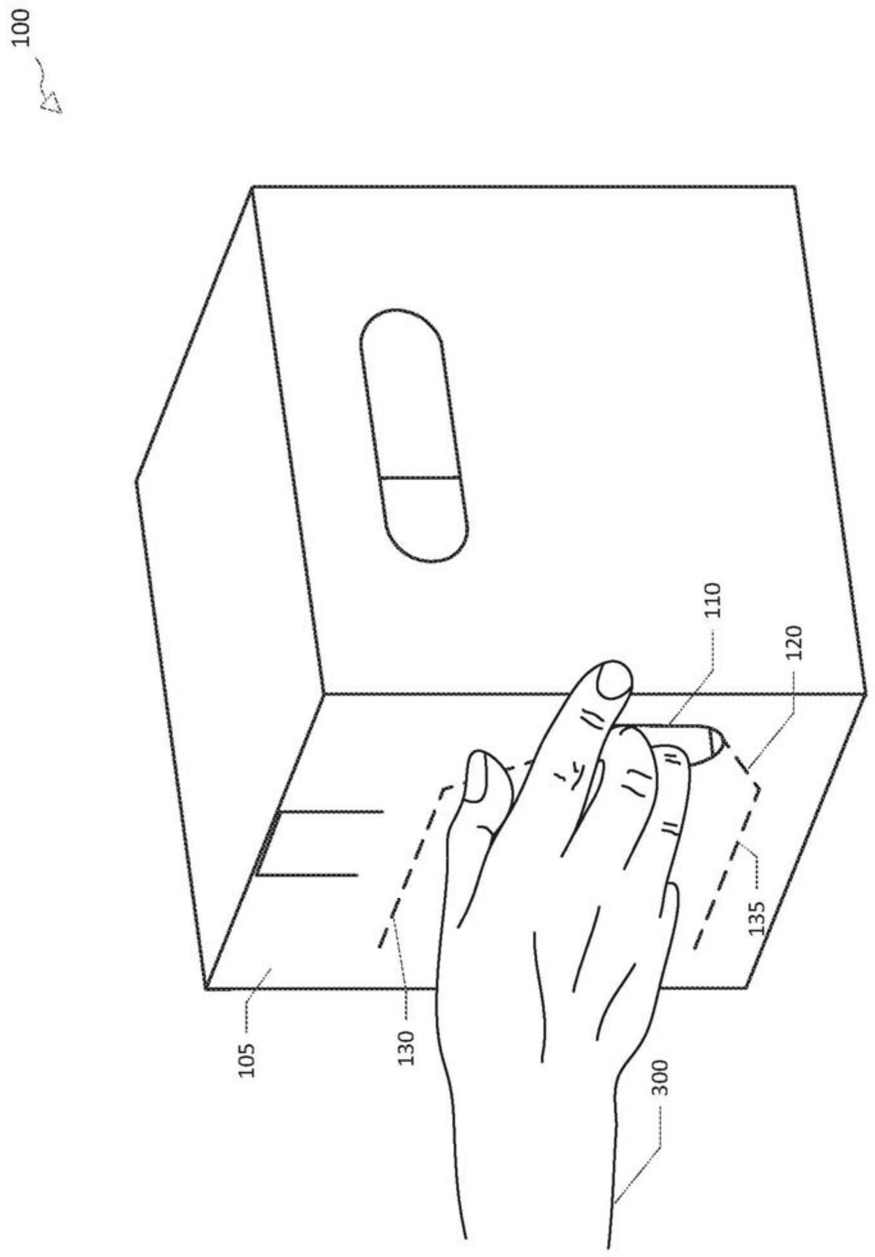


FIG. 3

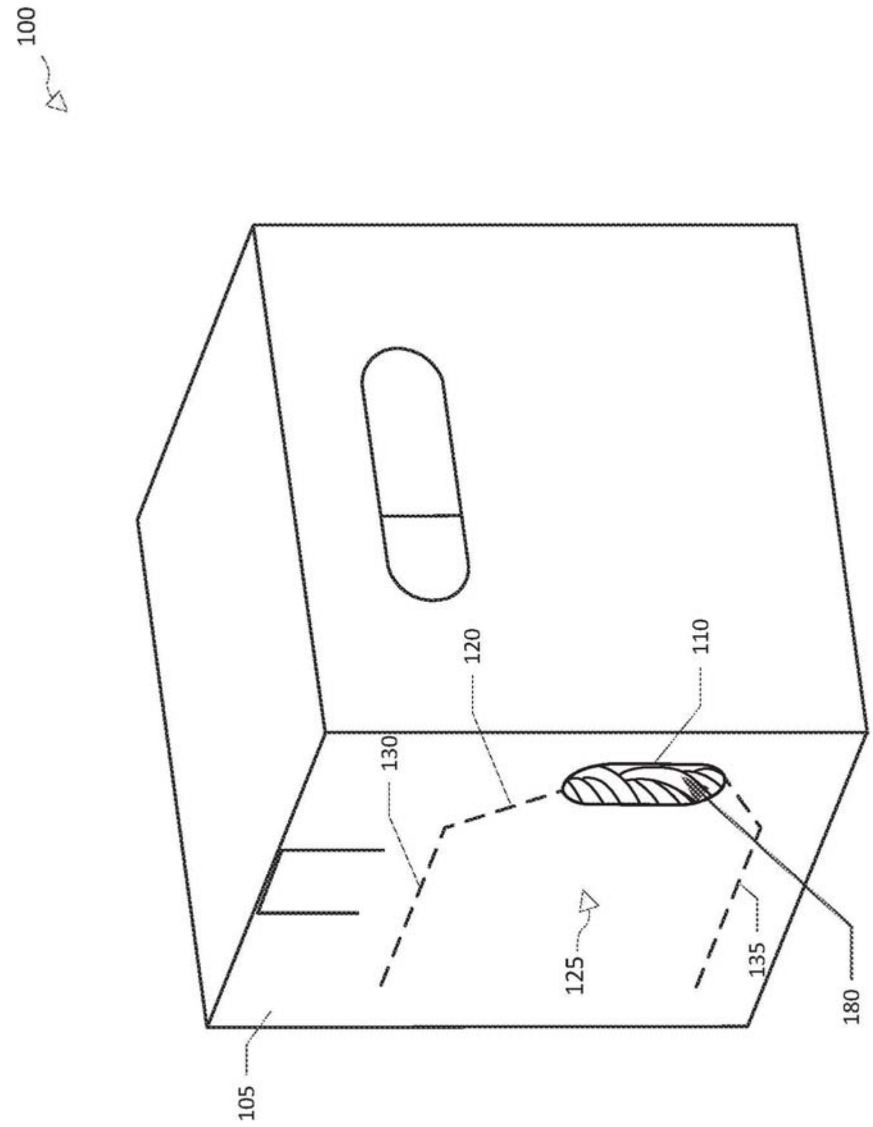


FIG. 4A

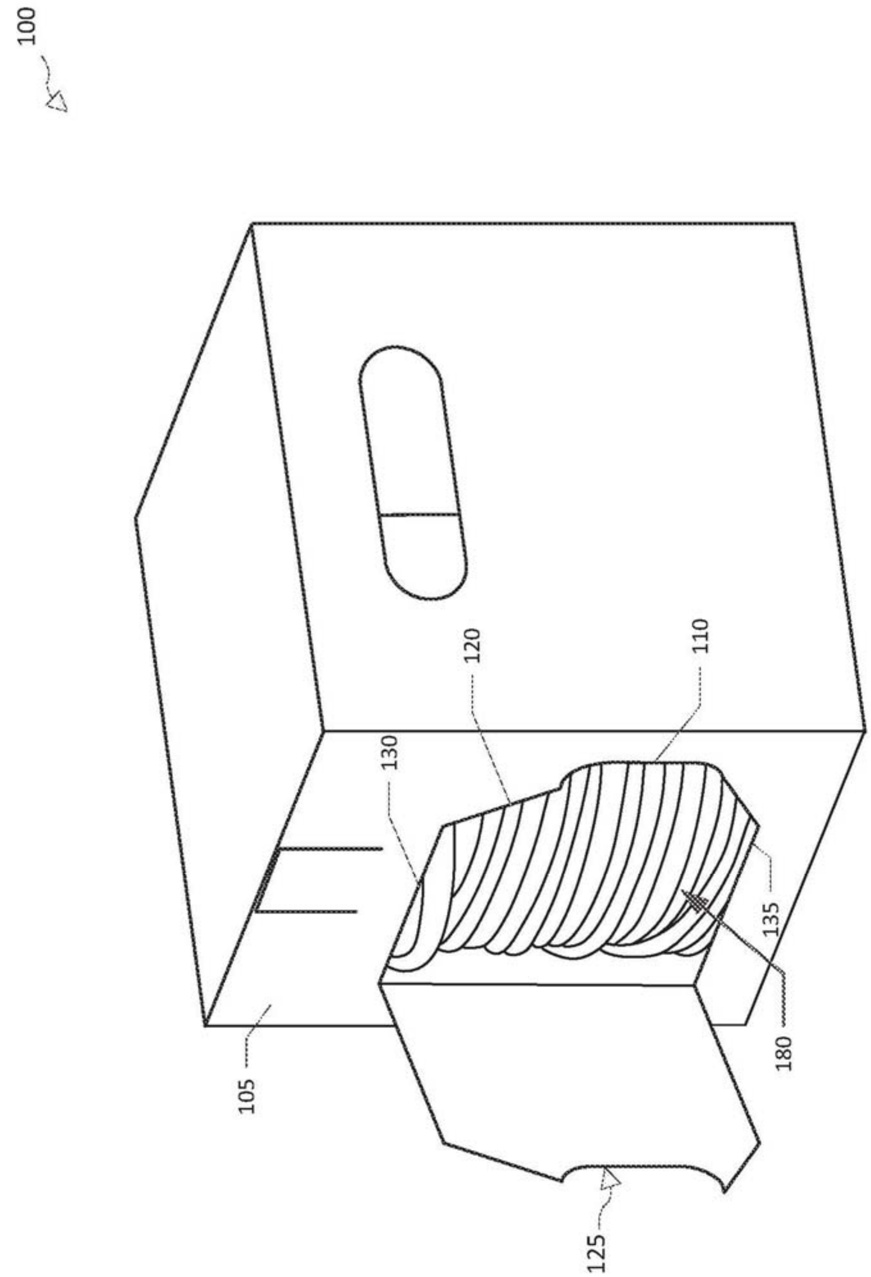


FIG. 4B

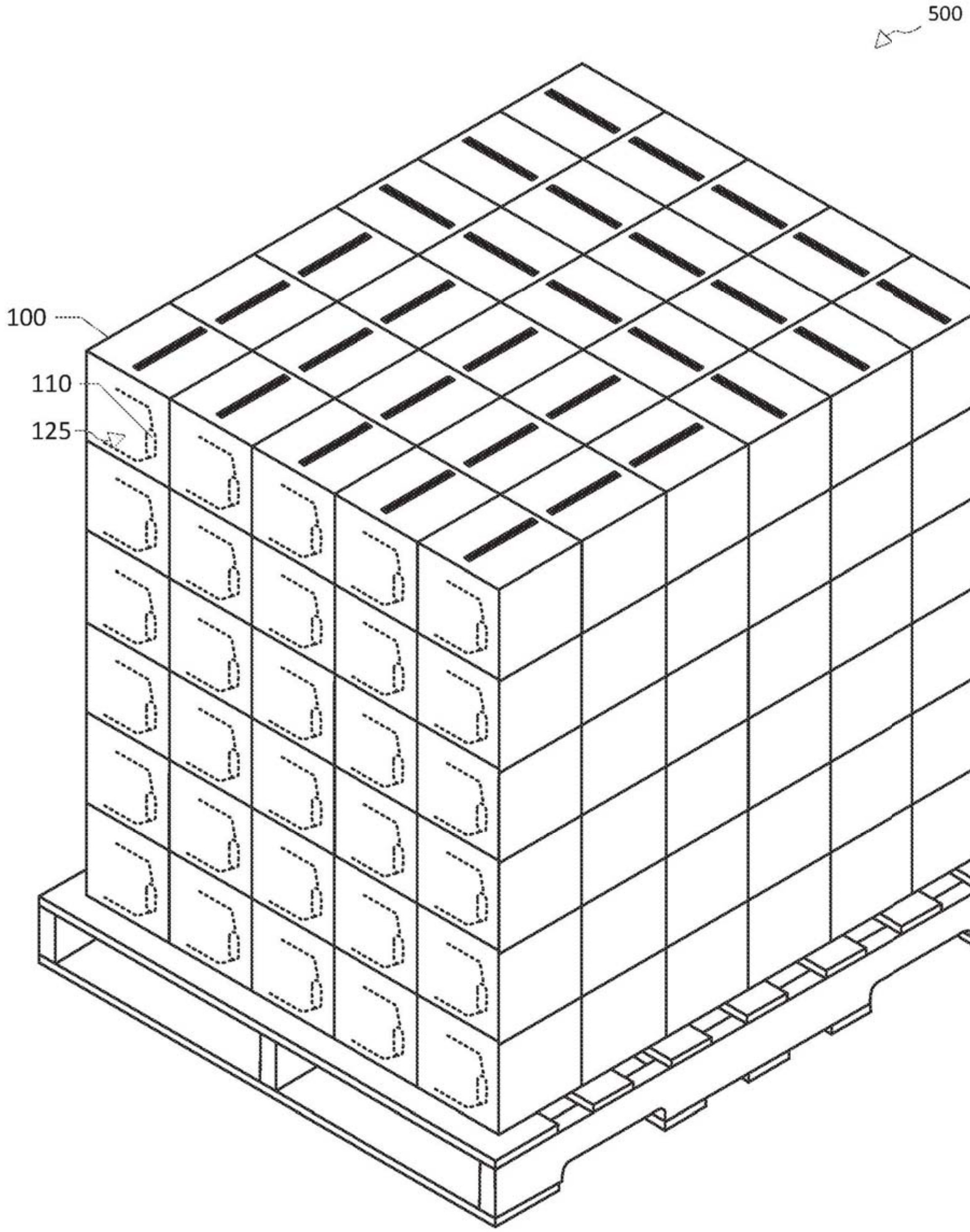
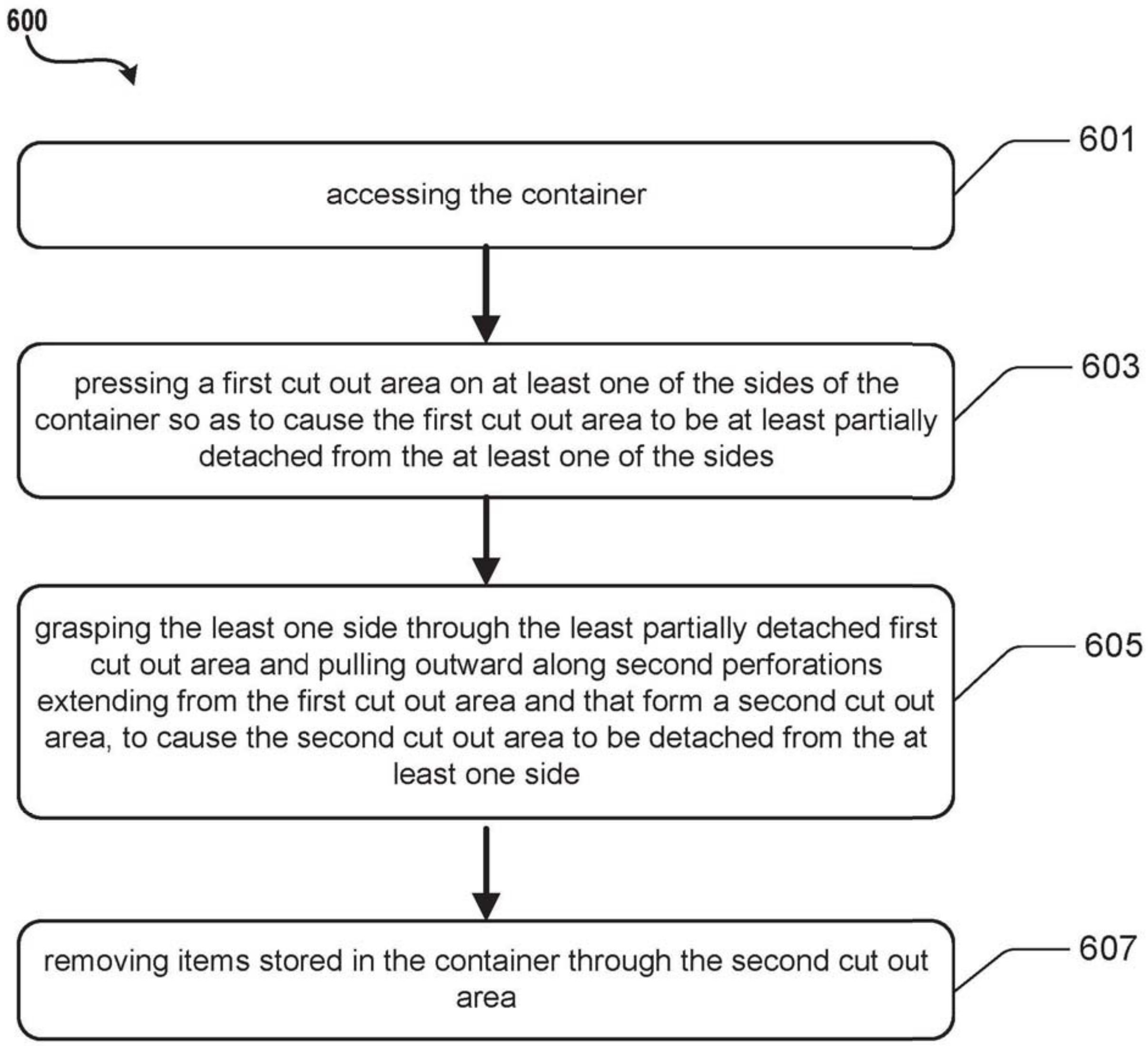


FIG. 5



accessing the container

pressing a first cut out area on at least one of the sides of the container so as to cause the first cut out area to be at least partially detached from the at least one of the sides

grasping the least one side through the least partially detached first cut out area and pulling outward along second perforations extending from the first cut out area and that form a second cut out area, to cause the second cut out area to be detached from the at least one side

removing items stored in the container through the second cut out area

FIG. 6

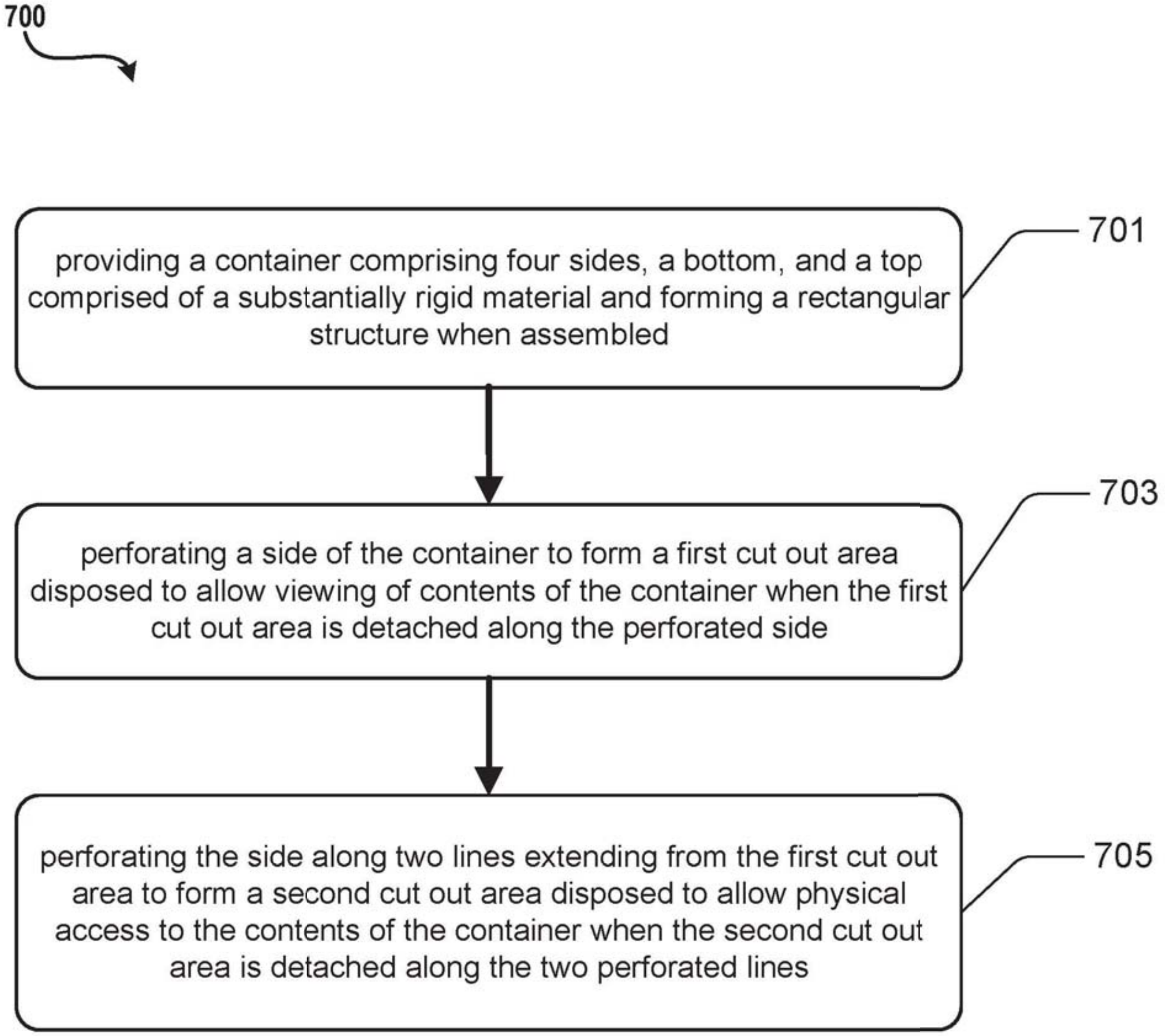

700
701
providing a container comprising four sides, a bottom, and a top comprised of a substantially rigid material and forming a rectangular structure when assembled
703
perforating a side of the container to form a first cut out area disposed to allow viewing of contents of the container when the first cut out area is detached along the perforated side
705
perforating the side along two lines extending from the first cut out area to form a second cut out area disposed to allow physical access to the contents of the container when the second cut out area is detached along the two perforated lines

FIG. 7